

SECTION 3: AIRCRAFT CAPACITY AND UTILIZATION FACTORS

3.1 INTRODUCTION

Aircraft capacity and utilization factors apply primarily to the evaluation of FAA investment and regulatory programs that affect time spent in air transportation, system capacity and utilization. The utilization of available capacity affects the benefits and costs accrued directly by aircraft operators and indirectly by users and society.

In this and the next two sections, where available, data for four user groups are presented together with the sub-groupings shown below:

Group 1: Air carrier operations of passenger aircraft.

- A: Large jets (wide body and narrow body)
- B: Commuter subgroups (propellers and regional jets)

Group 2: Air carrier operations of freighter aircraft.

- A: Large jets (wide body and narrow body)
- B: Commuter subgroups (propellers and regional jets)

Group 3: General aviation aircraft, including air taxi.

- A: General aviation only
- B: Air taxi only

Group 4: Military aircraft.

Within each group, data are reported by generic aircraft classifications. Detailed aircraft specific information, where available, is also provided in the supporting tables at the end of each section. Finally, user profiles are constructed for selected user groupings. These profiles are designed to provide various aggregations of data likely to be relevant to the conduct of analyses that can be potentially anticipated. They are provided to relieve analysts of the requirement to aggregate data. Provision of the underlying data permits analysts to make alternative aggregations where warranted.

The following factors are evaluated for air carrier and general aviation, respectively, with differences based on data limitations:

Factor	Air Carriers (Groups 1 and 2)	General Aviation (Group 3)
Aircraft seating capacity	x	x
Number of crew (including flight attendants)	x	—
Cargo capacity	x	—
Passenger load factor	x	x
Cargo load factor	x	—
Aircraft utilization	x (day)	x (year)
Average speed	x	—
Total useful load	—	x

The air carrier sub-groupings for passenger and freight are defined by type of aircraft. Freighters are those aircraft that report no passenger traffic. Passenger aircraft produce both passenger and cargo services by using empty space in aircraft compartments to carry air freight. Air cargo capacity on passenger aircraft is estimated as total aircraft capacity minus passenger capacity utilized.

General aviation capacity data are also summarized in two sub-groupings: General aviation only and air taxi only. The averages for the sub-groupings are based upon hours of use.

Information on capacity and utilization factors for military aircraft is generally not publicly available, and thus is not presented here. From a regulatory or system investment standpoint, FAA actions will primarily affect military flight time; the associated costs of changes in military operations are covered in Sections 4 and 5.

Data limitations do not allow for complete analysis of each capacity factor for each aircraft type or classification. The most complete data are available for the large air carriers, while small commuter air carriers report lesser amounts of data, and general aviation fleet data are limited. Individual tables show specific definitions for each element.

3.2 AIR CARRIER AIRCRAFT

Aircraft capacity and utilization factors for the year 1996 were obtained from data submitted by air carriers on BTS Form 41 for large air carriers, and Form 298C for small (commuter) carriers.^{1,2} They are shown for generic aircraft classifications and for the total fleet. Detailed aircraft specific information is shown in the supporting tables at the end of this section.

¹*Form 41 Traffic and Financial Data*, and *Form 298-C-Commuter Airlines*, (Washington, DC: Bureau of Transportation and Statistics, various dates).

²*FAA Aviation Forecasts Fiscal Years 1998-2009* (Washington, DC, 1998).

Data for air carrier aircraft are reported by the following classifications:

1. Two-engine narrow body jet
2. Two-engine wide body jet
3. Three-engine narrow body jet
4. Three-engine wide body jet
5. Four-engine narrow body jet
6. Four-engine wide body jet
7. Regional jet under 40 seats
8. Regional jet with 40-59 seats
9. Regional jet over 59 seats³
10. Turboprops under 20 seats
11. Turboprops with 20 or more seats
12. Piston

There are detailed data available for the first six categories, since carriers with these large aircraft are required to submit detailed operating and financial data to DOT on Form 41. Categories 7 through 9 are primarily newer aircraft, and data are limited for categories 7 and 8 and were not reported in the base period for category 9. Categories 10 through 12 are small aircraft, for which detailed data do not have to be filed.

Air carrier data are provided in four tables that represent the different reporting requirements under Forms 41 and 298-C. Form 41 air carrier passenger operations are shown in Table 3-1. The column dealing with crew size includes both flight crew and cabin crew. The number of flight deck crew for the aircraft in each grouping is identified by reference to the relevant editions of *Jane's All the World's Aircraft*.⁴ The number of flight attendants varies based on the size of the aircraft⁵ and staffing policy of individual carriers. Previous editions⁶ of this study recommend estimating flight attendants for aircraft groups using an average of one flight attendant per 45 seats (rounding up). This assumption is continued here, reflecting the actual practice of some carriers of providing more attendants than the regulatory minimum. Air carrier all-freight operations are shown in Table 3-2.

³ No data are reported for these aircraft which are in the planning process and have yet to enter service.

⁴ *Jane's All the World's Aircraft* (Surrey, UK: Jane's Information Group Limited, various years).

⁵ FAR 121.391(a) generally requires a minimum of one flight attendant for each 50 installed seats in an aircraft, for aircraft above 9 or 19 seats (depending on aircraft weight).

⁶ *Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs*, (Washington, DC, 1989).

Table 3-1
1996 Air Carrier Capacity and Utilization Factors

Economic Values Class	(Column 1) Passenger Load Factor	(Column 2) Cargo Load Factor	(Column 3) Passenger Capacity	(Column 4) Cargo Capacity (Tons)	(Column 5) Daily Utilization (Hours)	(Column 6) Crew Size	(Column 7) Average Block Speed (MPH)	(Column 8) Block Hours	(Column 9) Average Airborne Speed (MPH)	(Column 10) Airborne Hours
Two-engine narrow body jet	67.1%	26.9%	138	5.1	8.2	5	350	9,622,195	420	8,015,424
Two-engine wide body jet	71.7%	38.3%	214	18.4	10.4	7	442	1,080,550	489	977,047
Three-engine narrow body jet	67.5%	32.2%	150	4.6	6.6	7	359	1,478,241	437	1,216,170
Three-engine wide body jet	75.4%	41.3%	277	18.0	9.0	10	455	879,513	507	789,247
Four-engine narrow body jet	53.0%	26.2%	90	11.6	4.9	6	300	68,930	370	55,950
Four-engine wide body jet	74.9%	41.1%	401	23.9	10.2	12	495	448,155	525	423,086
Regional jet under 40 seats	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Regional jet with 40-59 seats	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Regional jet over 59 seats	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Turboprops under 20 seats	48.6%	16.5%	19	0.5	5.8	2	183	491,669	237	378,221
Turboprops with 20 or more seats	53.6%	24.5%	40	0.9	5.9	3	187	1,081,703	238	850,086
Piston	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
All Aircraft	69.4%	33.9%	161	7.8	7.9	6	351	15,150,956	418	12,705,231

Source: Form 41 Data, Year End 1996.

NR = No data reported.

Col 1: Revenue passenger miles divided by available seat miles.

Col 2: Revenue ton miles divided by available ton miles. Available ton miles are net of passenger load, using 200 pounds per passenger mile.

Col 3: Available seat miles divided by aircraft miles (average passenger capacity).

Col 4: Available ton miles (net of passenger load) divided by aircraft revenue miles.

Col 5: Airborne hours per aircraft day.

Col 6: Flight crew from *Jane's All The World's Aircraft* plus one flight attendant for each 45 passenger seats above 19 seats.

Col 7: Aircraft miles divided by block hours.

Col 8: Block hours from source document. Time calculated from gate to gate.

Col. 9: Aircraft miles divided by airborne hours.

Col. 10: Airborne hours from source document. Time calculated from takeoff to landing.

With the exception of some larger commuter operators, smaller air carriers generally report on Form 298-C. Less information on capacity and utilization by aircraft type is required on this form. The results for Alaskan Form 298-C carriers have been separated from other Form 298-C carriers to provide information on the unique operating environment in Alaska. Capacity and utilization data for Form 298-C Alaska operators are shown in Table 3-3; data for all other 298-C carriers are summarized in Table 3-4.

Data by specific aircraft type that relate to Tables 3-1 through 3-4 are provided at the end of this section in Supporting Tables 3-8 through 3-11.

Table 3-2
1996 Air Freight Carrier Capacity and Utilization Factors

Economic Values Class	(Column 1) Cargo Capacity (Tons)	(Column 2) Cargo Load Factor	(Column 3) Daily Utilization (Hours)	(Column 4) Crew Size	(Column 5) Average Block Speed (MPH)	(Column 6) Block Hours	(Column 7) Average Airborne Speed (MPH)	(Column 8) Airborne Hours
Two-engine narrow body jet	40.5	52.1%	3.7	2	378	117,509	439.6	100,981
Two-engine wide body jet	51.8	61.8%	4.2	2	399	84,089	460.9	72,758
Three-engine narrow body jet	24.4	56.9%	2.0	3	355	298,091	424.4	249,253
Three-engine wide body jet	87.9	63.6%	6.5	3	454	167,381	494.9	153,648
Four-engine narrow body jet	47.7	60.4%	3.3	3	402	274,755	462.4	238,710
Four-engine wide body jet	110.5	66.0%	4.7	3	453	144,927	496.1	132,322
Regional jet under 40 seats	NR (1)	NR (1)	NR (1)	NR (1)	NR (1)	NR (1)	NR (1)	NR (1)
Regional jet with 40-59 seats	NR	NR	NR	NR	NR	NR	NR	NR
Regional jet over 59 seats	NR	NR	NR	NR	NR	NR	NR	NR
Turboprops under 20 seats	1.8	45.4%	1.4	2	148	147,200	168.8	129,217
Turboprops with 20 or more seats	17.0	40.5%	2.4	2	221	41,926	255.8	36,175
Piston	6.6	40.2%	2.2	2	193	75,007	225.4	64,368
All Aircraft	53.2	61.8%	2.8	3	356	1,350,920	408.6	1,177,482
<p>Source: Form 41 Year End 1996.</p> <p>NR = No data reported.</p> <p>(1) Data reported is sparse and inconsistent, but are included in "all aircraft" row for the sake of completeness.</p> <p>Col 1: Available ton miles divided by aircraft miles.</p> <p>Col 2: Cargo revenue ton miles divided by available ton miles.</p> <p>Col 3: Airborne hours per aircraft day.</p> <p>Col 4: Flight crew from <i>Jane's All The World's Aircraft</i>.</p> <p>Col 5: Aircraft miles divided by block hours.</p> <p>Col 6: Block hours from source document. Time calculated from gate to gate.</p> <p>Col 7: Aircraft miles divided by airborne hours.</p> <p>Col 8: Airborne hours from source document. Time calculated from takeoff to landing.</p> <p>Note: The following aircraft types were reported in Form 41, but are not included due to incomplete filings: F28-1000; A310-300:</p> <p>5 air hours; Bae-146-200; C-336: 1 block hour; C-411: 2 block hours; AERO-1121: 1 block hour; HFB-320; EMB-110: 1 air hour; CV-540.</p>								

Table 3-3
1996 Alaska Operators Capacity and Utilization Factors
298-C Operations

Economic Values Class	(Column 1) Seats	(Column 2) Crew Size	(Column 3) Cargo Capacity (Tons)	(Column 4) Block Hours	(Column 5) Airborne Hours
Two-engine narrow body jet	123	4	NR	111	88
Two-engine wide body jet	NR	NR	NR	NR	NR
Three-engine narrow body jet	146	4	39.6	878	697
Three-engine wide body jet	NR	NR	NR	NR	NR
Four-engine narrow body jet	97	4	NR	580	461
Four-engine wide body jet	NR	NR	NR	NR	NR
Regional jet under 40 seats	8	1	3.6	1,557	1,236
Regional jet with 40-59 seats	NR	NR	NR	NR	NR
Regional jet over 59 seats	NR	NR	NR	NR	NR
Turboprops under 20 seats	15	2	2.3	70,463	55,948
Turboprops with 20 or more seats	40	3	5.1	11,991	9,521
Piston	6	1	0.9	294,247	233,632
All Aircraft	9	1	1.3	379,827	301,583
Source: Analysis of Year End 1996 Form 298C data. NR = No data reported. Col 1: <i>Jane's All The World's Aircraft</i> (various issues) <i>op. cit.</i> Col 2: Standard flight crew complements per analysis of <i>Jane's All The World's Aircraft, op. cit.</i> , plus one flight attendant per each 45 passenger seats above 19 seats. Col 3: <i>Jane's All The World's Aircraft, op. cit.</i> Col 4: Form 298-C. Col 5: Block hours from Form 298-C multiplied by ratio of airborne hours/block hours for similar aircraft from Form 41.					

Table 3-4
1996 Non-Alaska Operators Capacity and Utilization Factors
Other 298-C Carriers (Weighted by Block Hours)

Economic Values Class	(Column 1) Seats	(Column 2) Crew Size	(Column 3) Cargo Capacity (Tons)	(Column 4) Block Hours	(Column 5) Airborne Hours
Two-engine narrow body jet	NR	NR	NR	NR	NR
Two-engine wide body jet	NR	NR	NR	NR	NR
Three-engine narrow body jet	NR	NR	NR	NR	NR
Three-engine wide body jet	NR	NR	NR	NR	NR
Four-engine narrow body jet	NR	NR	NR	NR	NR
Four-engine wide body jet	NR	NR	NR	NR	NR
Regional jet under 40 seats	8	1	5.3	535	425
Regional jet with 40-59 seats	50	4	9.1	147,443	117,070
Regional jet over 59 seats	NR	NR	NR	NR	NR
Turboprops under 20 seats	18	2	3.0	370,813	294,426
Turboprops with 20 or more seats	37	3	6.0	973,201	772,722
Piston	32	2	1.6	97,774	77,633
All Aircraft	30	3	4.6	1,589,766	1,262,276

Source: Analysis of Year End 1996 Form 298C data.

NR = No data reported.

Col 1: *Jane's All The World's Aircraft* (various issues) *op. cit.*

Col 2: Standard flight crew complements per analysis of *Jane's All The World's Aircraft*, *op. cit.*, plus one flight attendant per each 45 passenger seats above 19 seats.

Col 3: *Jane's All The World's Aircraft*, *op. cit.*

Col 4: Form 298-C.

Col 5: Block hours from Form 298-C multiplied by ratio of airborne hours/block hours for similar aircraft from Form 41.

3.3 GENERAL AVIATION AIRCRAFT

Data for general aviation aircraft are presented for 23 classifications of aircraft:

- Piston
 - 1) 1-3 seats single engine
 - 2) 4-9 seats single engine
 - 3) 1-9 seats two engines
 - 4) 10-19 seats single engine
 - 5) 10-19 seats two engines
 - 6) 20+ seats two engines
 - 7) 20+ seats four engines

- Turboprops
 - 8) 1-9 seats single engine
 - 9) 1-9 seats two engines
 - 10) 10-19 seats single engine
 - 11) 10-19 seats two engines
 - 12) 20+ seats two engines
 - 13) 20+ seats four engines
- Turbojet/fan
 - 14) Two-engine, less than 20,000-lbs. gross weight
 - 15) Two-engine, greater than 20,000-lbs. gross weight
 - 16) Multi-engine, less than 20,000 lbs. gross weight
 - 17) Multi-engine, greater than 20,000 lbs. gross weight
 - 18) Commercial, greater than 65,000 lbs. gross weight
- Rotor
 - 19) Normal Piston, less than 7,000 lbs. gross weight
 - 20) Normal Turbine, greater than 7,000 lbs. gross weight
 - 21) Transport Piston, less than 7,000-lbs. gross weight
 - 22) Transport Turbine, greater than 7,000-lbs. gross weight
- Other
 - 23) All other aircraft, including experimental, balloon, home built aircraft, etc.

These classifications were established to reflect categories that have relevance for FAA economic analyses including benefit-cost evaluations of operations and certification regulation.

Weighted capacity and utilization factors for general aviation aircraft were derived from three primary sources:

- *General Aviation and Air Taxi Activity and Avionics Survey*, FAA, CY1995 (GA Survey), is based on a random sample of registered general aviation aircraft owners. The information in this report was resorted based on the classes of aircraft established for this study.⁷ Fleet size and hours of utilization (for total activity and air taxi) were the data used from this source.⁸

⁷The *General Aviation and Air Taxi Activity and Avionics Survey* for CY 1995 (latest year available) was resorted after aircraft in the sample base were reclassified to the 23 categories established for this study, instead of the 19 GA Survey categories. The resorting was based on data in the FAA Registry Make/Model/Series (MMS) database, maintained by AFS-700, Oklahoma City, OK.

⁸The Survey (*ibid*) reports flight hours for GA and air taxi operators; these are equivalent in concept to airborne hours reported for commercial operators in Tables 3-1 through 3-4.

- *Aviation Accident Data* from the NTSB were used to derive the average occupancy of general aviation aircraft.⁹ Estimates of the average number of seats by equipment groups were based on NTSB general aviation accidents and incidents reported over the period 1983 to 1997. It is assumed that, on average, the number of occupants on a given aircraft model that has experienced an accident or incident is typical of the normal occupancy of that aircraft model. Passenger load factor by equipment groups is calculated to be the average number of seats occupied as a percent of the seats in the aircraft.
- The *Aircraft Bluebook-Price Digest* provided operating characteristics including type and number of engines, and empty weight.¹⁰
- The *Federal Aviation Aircraft Registry* provided data on aircraft weight and seat capacity.¹¹

Estimation of general aviation fleet characteristics began with a resorting of the 1995 General Aviation Survey based on the classifications of general aviation aircraft developed for this study. In analyzing the general aviation fleet, it should be understood that older aircraft are generally used considerably less than newer aircraft. The results for the overall GA fleet for all aircraft are shown in Table 3-5 (Group A). Data for aircraft built in 1981 and before are reported in Table 3-5 (Group B), and for aircraft built after 1981 in Table 3-5 (Group C).

Estimates of the average number of seats occupied by make/model were based on analysis of NTSB general aviation accidents and incidents reported over the 1983-1997 period. The number of occupants in general aviation aircraft includes the pilot(s). The total useful load is calculated using the certificated gross takeoff weight minus the operator empty weight. Operator empty weight is a standard in general aviation that includes oil and lubricants but assumes a zero fuel weight. See Table 3-6.

3.4 PROFILES

Table 3-7 summarizes the capacity and utilization factors for profiles of scheduled, non-scheduled commercial, and non-commercial user groups. Because of variations in reporting requirements, data are not available for all users for every capacity and utilization factor.

⁹*Aviation Accident Data System* (Washington, DC: National Transportation Safety Board, updated monthly).

¹⁰*Aircraft Bluebook-Price Digest* (Overland Park, KS: Intertec Publishing, Spring 1997).

¹¹FAA Make/Model/Series database maintained by Federal Aviation Administration, AFS-700, Oklahoma City, OK.

Table 3-5
1995 General Aviation Survey Summary By Economic Values Categories

Group A: All Aircraft							
Economic Values Category		(Column 1) Active Aircraft	(Column 2) Estimated Total Hours Flown	(Column 3) Estimated Air Taxi Hours Flown	(Column 4) Estimated Average Hours Total	(Column 5) Estimated Average Hours- Air Taxi	(Column 6) Estimated Average Hours-Other
1	Piston 1-3 Seats	43,560	4,888,517	6,696	112.2	0.2	112.1
2	Piston 4-9 Seats 1 Eng	88,921	11,716,993	253,124	131.8	2.8	128.9
3	Piston 4-9 Seats 2 Eng	16,378	2,651,296	495,281	161.9	30.2	131.6
4	Piston 10-19 Seats 1 Eng	1	49	NA	37.4	NA	NA
5	Piston 10-19 Seats 2 Eng	469	144,430	74,056	308.1	158.0	150.1
6	Piston 20+ Seats 2 Eng	135	33,856	17,156	250.8	127.1	123.7
7	Piston 20+ Seats 4 Eng	51	3,034	NA	59.5	NA	NA
8	Turboprop 1-9 Seats 1 Eng	772	299,391	98,845	387.8	128.0	259.8
9	Turboprop 1-9 Seats 2 Eng	1,163	269,755	13,856	232.0	11.9	220.1
10	Turboprop 10-19 Seats 1 Eng	25	3,868	1,367	154.6	54.6	100.0
11	Turboprop 10-19 Seats 2 Eng	2,453	765,381	152,516	312.0	62.2	249.8
12	Turboprop 20+ Seats 2 Eng	168	98,662	5,584	587.3	33.2	554.0
13	Turboprop 20+ Seats 4 Eng	NA	NA	NA	NA	NA	NA
14	Turbojet/fan 2 Eng <20,000	2,986	931,072	105,448	311.8	35.3	276.5
15	Turbojet/fan 2 Eng >=20,000	1,272	368,562	27,299	289.7	21.5	268.2
16	Turbojet/fan 3+ Eng <20,000	2	953	NA	414.2	NA	NA
17	Turbojet/fan 3+ Eng >=20,000	193	51,447	795	267.1	4.1	263.0
18	Turbojet/fan >=65,000	196	42,836	NA	218.8	NA	NA
19	Rotor Piston <7,000	1,455	355,599	NA	244.5	NA	NA
20	Rotor Turbine <7,000	2,257	1,002,095	93,288	443.9	41.3	402.6
21	Rotor Piston >=7,000	42	4,854	NA	114.4	NA	NA
22	Rotor Turbine >=7,000	1,527	854,615	169,295	559.6	110.9	448.8
23	Other	17,316	960,699	15	55.5	0.0	55.5
All Piston		149,514	19,438,175	846,314	130.0	5.7	124.3
All Turboprop		4,581	1,437,057	272,169	313.7	59.4	254.3
All Turbojet		4,649	1,394,870	133,542	300.0	28.7	271.3
All Rotor		5,281	2,217,163	262,584	419.8	49.7	370.1
All Other		17,316	960,699	15	55.5	0.0	55.5
All Aircraft		181,341	25,447,963	1,514,623	140.3	8.4	132.0

Table 3-5 (continued) 1995 General Aviation Survey Summary By Economic Values Categories Group B: Aircraft Built Before 1982							
Economic Values Class		(Column 1) Active Aircraft	(Column 2) Estimated Total Hours Flown	(Column 3) Estimated Air Taxi Hours Flown	(Column 4) Estimated Average Hours Total	(Column 5) Estimated Average Hours- Air Taxi	(Column 6) Estimated Average Hours-Other
1	Piston 1-3 Seats	41,135	4,411,991	6,696	107.3	0.2	107.1
2	Piston 4-9 Seats 1 Eng	83,224	10,496,635	232,732	126.1	2.8	123.3
3	Piston 4-9 Seats 2 Eng	15,285	2,384,478	476,119	156.0	31.1	124.9
4	Piston 10-19 Seats 1 Eng	1	49	NA	37.4	NA	NA
5	Piston 10-19 Seats 2 Eng	392	92,872	72,329	237.0	184.5	52.4
6	Piston 20+ Seats 2 Eng	135	33,856	17,156	250.8	127.1	123.7
7	Piston 20+ Seats 4 Eng	51	3,034	NA	59.7	NA	NA
8	Turboprop 1-9 Seats 1 Eng	109	18,248	NA	166.9	NA	NA
9	Turboprop 1-9 Seats 2 Eng	992	196,026	13,856	197.6	14.0	183.6
10	Turboprop 10-19 Seats 1 Eng	NA	NA	NA	NA	NA	NA
11	Turboprop 10-19 Seats 2 Eng	1,573	484,066	117,047	307.7	74.4	233.3
12	Turboprop 20+ Seats 2 Eng	64	18,251	5,584	284.5	87.0	197.4
13	Turboprop 20+ Seats 4 Eng	NA	NA	NA	NA	NA	NA
14	Turbojet/fan 2 Eng <20,000	1,308	328,802	50,843	251.4	38.9	212.5
15	Turbojet/fan 2 Eng >=20,000	650	178,561	22,046	274.7	33.9	240.8
16	Turbojet/fan 3+ Eng <20,000	NA	NA	NA	NA	NA	NA
17	Turbojet/fan 3+ Eng >=20,000	84	14,150	NA	168.0	NA	NA
18	Turbojet/fan >=65,000	107	27,684	NA	258.4	NA	NA
19	Rotor Piston <7,000	820	139,352	NA	170.0	NA	NA
20	Rotor Turbine <7,000	1,302	454,741	23,466	349.2	18.0	331.2
21	Rotor Piston >=7,000	42	4,854	NA	114.4	NA	NA
22	Rotor Turbine >=7,000	554	195,172	8,816	352.3	15.9	336.4
23	Other	5,509	316,395	1	57.4	0.0	57.4
All Piston		140,407	17,422,915	805,033	124.3	5.7	118.5
All Turboprop		2,739	716,592	136,487	261.6	49.8	211.8
All Turbojet/fan		2,150	549,196	72,890	255.4	33.9	221.5
All Rotor		2,719	794,120	32,282	292.1	11.9	280.2
All Other		5,509	316,395	1	57.4	0.0	57.4
All Aircraft		153,339	19,799,218	1,046,693	129.1	6.8	122.3

Table 3-5 (continued)
1995 General Aviation Survey Summary By Economic Values Categories
Group C: Aircraft Built in 1982 and Beyond

Economic Values Class	(Column 1) Active Aircraft	(Column 2) Estimated Total Hours Flown	(Column 3) Estimated Air Taxi Hours Flown	(Column 4) Estimated Average Hours Total	(Column 5) Estimated Average Hours- Air Taxi	(Column 6) Estimated Average Hours-Other
1 Piston 1-3 Seats	2,425	476,526	NA	196.5	NA	NA
2 Piston 4-9 Seats 1 Eng	5,697	1,220,358	20,393	214.2	3.6	210.6
3 Piston 4-9 Seats 2 Eng	1,093	266,818	19,162	244.1	17.5	226.6
4 Piston 10-19 Seats 1 Eng	NA	NA	NA	NA	NA	NA
5 Piston 10-19 Seats 2 Eng	77	51,558	1,726	670.6	22.5	648.1
6 Piston 20+ Seats 2 Eng	NA	NA	NA	NA	NA	NA
7 Piston 20+ Seats 4 Eng	NA	NA	NA	NA	NA	NA
8 Turboprop 1-9 Seats 1 Eng	663	281,143	98,845	424.2	149.2	275.1
9 Turboprop 1-9 Seats 2 Eng	171	73,729	NA	432.3	NA	NA
10 Turboprop 10-19 Seats 1 Eng	25	3,868	1,367	154.6	54.6	100.0
11 Turboprop 10-19 Seats 2 Eng	880	281,315	35,469	319.8	40.3	279.5
12 Turboprop 20+ Seats 2 Eng	104	80,411	NA	774.4	NA	NA
13 Turboprop 20+ Seats 4 Eng	NA	NA	NA	NA	NA	NA
14 Turbojet/fan 2 Eng <20,000	1,678	602,270	54,605	358.9	32.5	326.3
15 Turbojet/fan 2 Eng >=20,000	622	190,001	5,253	305.6	8.4	297.1
16 Turbojet/fan 3+ Eng <20,000	2	953	NA	414.2	NA	NA
17 Turbojet/fan 3+ Eng >=20,000	108	37,296	795	344.2	7.3	336.8
18 Turbojet/fan >=65,000	89	15,153	NA	170.8	NA	NA
19 Rotor Piston <7,000	635	216,247	NA	340.7	NA	NA
20 Rotor Turbine <7,000	955	547,354	69,823	573.1	73.1	500.0
21 Rotor Piston >=7,000	NA	NA	NA	NA	NA	NA
22 Rotor Turbine >=7,000	937	659,443	160,479	678.0	165.0	513.0
23 Other	11,807	644,304	14	54.6	0.0	54.6
All Piston	9,291	2,015,259	41,281	216.9	4.4	212.5
All Turboprop	1,842	720,465	135,681	391.2	73.7	317.5
All Turbojet/fan	2,499	845,674	60,652	338.4	24.3	314.1
All Rotor	2,563	1,423,043	230,302	555.3	89.9	465.5
All Other	11,807	644,304	14	54.6	0.0	54.6
All Aircraft	28,002	5,648,745	467,930	201.7	16.7	185.0

Source: Analysis of responses to the FAA *General Aviation and Air Taxi Activity and Avionics Survey, 1995*.

Individual responses were sorted to classifications and expanded. Totals may not add due to rounding.

Col 1: Active aircraft are those flown at least once during the year.

Col 2: Total hours flown by active aircraft, including air taxi.

Col 3: Reported air taxi hours (also included in Column 2).

Col 4: Column 2 divided by Column 1.

Col 5: Col 3 divided by Col 1.

Col 6: Column 4 minus Column 5.

Note: No active aircraft were in Category 13.

Table 3-6
General Aviation Capacity and Utilization

Economic Values Class	(Column 1) Average Seats	(Column 2) Percent of Seats Occupied	(Column 3) Total Useful Load
1 Piston 1-3 Seats	2.3	70.0	729
2 Piston 4-9 Seats 1 Eng	5.3	43.7	942
3 Piston 4-9 Seats 2 Eng	5.4	45.7	2,212
4 Piston 10-19 Seats 1 Eng	13.3	11.8	NA
5 Piston 10-19 Seats 2 Eng	10.4	36.6	2,612
6 Piston 20+ Seats 2 Eng	31.5	41.8	NA
7 Piston 20+ Seats 4 Eng	15.5	20.0	NA
8 Turboprop 1-9 Seats 1 Eng	1.9	67.0	3,304
9 Turboprop 1-9 Seats 2 Eng	6.7	45.9	4,189
10 Turboprop 10-19 Seats 1 Eng	10.0	60.0	3,617
11 Turboprop 10-19 Seats 2 Eng	11.6	33.8	4,037
12 Turboprop 20+ Seats 2 Eng	27.0	25.6	7,805
13 Turboprop 20+ Seats 4 Eng	27.8	27.5	NA
14 Turbojet/fan 2 Eng <20,000	6.7	50.2	7,935
15 Turbojet/fan 2 Eng >=20,000	10.1	49.7	23,304
16 Turbojet/fan 3+ Eng <20,000	NA	NA	NA
17 Turbojet/fan 3+ Eng >=20,000	10.9	40.8	18,664
18 Turbojet/fan >=65,000	134.3	50.5	13,018
19 Rotor Piston <7,000	2.4	66.6	639
20 Rotor Turbine <7,000	4.7	45.7	1,563
21 Rotor Piston >=7,000	3.9	41.3	NA
22 Rotor Turbine >=7,000	6.4	35.9	2,335
23 Other	NA	NA	NA
Average - GA Only	5.4	49.5	1,969
Average - Air Taxi	6.6	44.4	3,079
Source: Noted below. NA = Data not available. Col 1: Seats installed, based on NTSB records for accidents and incidents, weighted by hours. Col 2: Percentage of seats occupied, or load factor, based on NTSB records for accidents and incidents (using the sum of passengers and the sum of seats), weighted by hours. Col 3: Gross takeoff weight less empty weight. Based on data in <i>Aircraft Bluebook-Price Digest</i> , (Overland Park, KS: Intertec Publishing, Spring 1997).			

**Table 3-7
Capacity and Utilization Profiles**

	(Column 1) Passenger Load Factor*	(Column 2) Cargo Load Factor**	(Column 3) Passenger Capacity*	(Column 4) Cargo Capacity** (Tons)	(Column 5) Daily ** Utilization (Hours)	(Column 6) Crew Size*	(Column 7) Average Airborne Speed** (MPH)	(Column 8) Total Airborne Hours*	(Column 9) Useful Load (lbs.)	(Column 10) Block Hours*
Scheduled commercial service										
Passengers	69.4%	33.9%	161.3	7.82	7.9	6.3	418	14,269,090	NA	17,120,549
Freight only	NA	61.8%	NA	53.21	2.8	2.8	409	1,177,482	NA	1,350,920
All combined	69.4%	44.6%	161.3	11.59	6.8	6.0	417	15,446,572	NA	18,471,469
Air Carrier without Commuters										
Passengers	69.6%	34.0%	168.7	8.23	8.2	6.1	437	11,476,924	NA	13,577,584
Freight only	NA	62.0%	NA	58.32	3.2	2.1	460	947,672	NA	1,086,752
All combined	69.6%	44.6%	168.7	12.21	7.3	6.1	439	12,424,596	NA	14,664,336
Commuter only										
Passengers	51.4%	22.9%	29.8	0.79	5.9	3.0	238	2,792,166	NA	3,542,965
Freight only	NA	41.1%	NA	4.33	1.7	2.1	198	229,810	NA	264,168
All combined	51.4%	33.1%	29.8	1.55	4.4	3.0	232	3,021,976	NA	3,807,133
Non-scheduled commercial (air taxi)	44.4%	NR	6.6	NR	NR	NR	NR	1,514,623	3,097	NA
Non-commercial (GA and military)										
GA and air taxi	49.0%	NR	5.5	NR	NR	NR	NR	25,447,963	1,969	NA
GA only	49.5%	NR	5.4	NR	NR	NR	NR	23,933,340	1,894	NA
Military	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR

NA: Not applicable.

NR: No data reported.

*For scheduled services: Form 41 and Form 298-C carriers.

**For scheduled services: Form 41 carriers only.

Col 1: For scheduled service: revenue passenger miles divided by available passenger seat miles; for air taxi and general aviation: percentage of seats occupied from NTSB accident records.

Col 2: For scheduled passenger service: cargo revenue ton miles divided by available ton miles (net of passenger load); for all-freight service: cargo revenue ton miles divided by available ton miles.

Col 3: For scheduled passenger service: available seat miles divided by aircraft miles; for air taxi and general aviation: seats installed from NTSB records.

Col 4: For scheduled passenger operations: available ton miles (net of passenger load) divided by revenue miles; for all-freight operations: available ton miles divided by revenue miles.

Col 5: Airborne hours per aircraft day.

Col 6: For scheduled passenger operations: flight crew plus one flight attendant per 45 passenger seats above 19 seats; for all-freight operations: flight crew only.

Col 7: Aircraft miles divided by airborne hours.

Col 9: Gross takeoff weight less empty weight.

SUPPORTING TABLES
AIRCRAFT CAPACITY AND UTILIZATION FACTORS

Table 3-8
Detail Supporting Table 3-1
1996 Air Carrier Capacity and Utilization Factors

Economic Values Class	(Column 1) Passenger Load Factor	(Column 2) Cargo Load Factor	(Column 3) Passenger Capacity	(Column 4) Cargo Capacity (Tons)	(Column 5) Daily Utilization (Hours)	(Column 6) Crew Size	(Column 7) Average Block Speed (MPH)	(Column 8) Block Hours	(Column 9) Average Airborne Speed (MPH)	(Column 10) Airborne Hours
Two-engine narrow body jet	67.1%	26.9%	138	5.1	8.2	5	350	9,622,195	420	8,015,424
A320-1/2	68.2%	30.0%	148	5.5	9.7	6	395	442,582	456	383,236
B-737-1/2	66.1%	25.8%	112	4.0	7.0	5	313	954,174	386	775,127
B-737-2C	58.3%	39.8%	79	5.2	7.1	4	292	98,762	373	77,435
B-737-3	67.5%	28.2%	131	4.3	9.1	5	350	1,858,836	414	1,570,316
B-737-4	68.0%	25.8%	144	5.3	7.9	6	349	310,134	413	261,865
B-737-5	68.6%	26.7%	110	3.9	8.6	5	342	448,452	412	372,952
B-757	68.4%	28.0%	187	7.8	9.5	7	402	1,548,322	463	1,341,922
DC-9-10	58.7%	33.7%	71	2.5	5.9	5	294	100,289	378	77,990
DC-9-15	61.6%	16.3%	91	3.3	4.8	6	330	9,285	400	7,662
DC-9-30	61.6%	30.0%	101	3.1	6.3	5	309	808,628	389	642,432
DC-9-40	62.8%	30.9%	109	3.3	6.5	5	302	45,592	386	35,637
DC-9-50	63.0%	29.1%	121	3.9	6.4	5	285	188,154	375	142,913
F-28	62.7%	18.2%	65	2.9	5.6	4	273	61,244	348	48,152
FOKR-100	66.6%	28.9%	98	2.7	7.2	5	302	400,855	377	320,360
FOKR-70	76.9%	10.9%	77	4.9	9.5	4	380	7,387	422	6,655
MD-80	67.2%	24.1%	142	5.6	8.5	6	359	2,279,138	431	1,900,678
MD-87	47.8%	5.8%	140	13.8	9.5	6	342	8,010	407	6,738
MD-90	59.9%	21.0%	153	5.8	8.5	6	382	52,351	461	43,354
Two-engine wide body jet	71.7%	38.3%	214	18.4	10.4	7	442	1,080,550	489	977,047
A300-600	72.2%	38.1%	266	15.6	7.3	8	389	110,112	460	92,943
A300-X4	61.3%	31.8%	256	15.0	3.3	8	403	18,382	476	15,562
B-767-2/ER	72.0%	38.7%	181	14.8	10.5	7	440	368,093	485	333,977
B-767-3/ER	71.2%	37.4%	216	20.5	12.1	7	452	525,665	494	480,968
B-777	75.7%	44.7%	291	26.2	11.5	9	470	58,298	511	53,597
Three-engine narrow body jet	67.5%	32.2%	150	4.6	6.6	7	359	1,478,241	437	1,216,170
B-727-1	68.5%	5.5%	45	3.4	1.3	4	378	895	439	772
B-727-2	67.6%	32.2%	150	4.6	6.6	7	359	1,474,680	437	1,213,062
B-727-QC	45.9%	34.8%	59	6.7	2.8	5	334	2,666	381	2,336
Three-engine wide body jet	75.4%	41.3%	277	18.0	9.0	10	455	879,513	507	789,247
DC-10-1	73.6%	35.3%	286	17.6	7.8	10	440	195,771	498	173,020
DC-10-3	77.3%	40.0%	273	21.3	10.2	10	476	166,122	515	153,489
DC-10-4	77.8%	38.3%	284	20.3	9.3	10	443	81,057	501	71,728
L-1011	74.8%	46.3%	305	9.7	7.3	11	421	211,053	492	180,958
L-1011-5	76.2%	44.5%	222	14.8	12.0	8	477	80,966	522	74,061
MD-11	75.0%	45.3%	261	25.6	11.8	9	493	144,544	524	135,991
Four-engine narrow body jet	53.0%	26.2%	90	11.6	4.9	6	300	68,930	370	55,950
BAE-146-1	52.2%	19.1%	70	1.7	5.7	4	323	1,174	386	981
BAE-146-2	49.7%	17.4%	88	2.6	5.1	4	210	12,547	288	9,131
BAE-146-3	56.2%	19.1%	94	2.8	5.8	5	267	37,210	335	29,649
DC-8-62	47.1%	27.7%	70	28.4	3.5	6	427	16,446	474	14,799
DC-8-63	56.7%	17.7%	250	7.3	4.8	9	471	1,553	526	1,390
Four-engine wide body jet	74.9%	41.1%	401	23.9	10.2	12	495	448,155	525	423,086
B-747-1	74.7%	39.1%	410	21.2	8.6	13	481	216,962	513	203,531
B-747-2/3	77.3%	48.0%	369	23.0	10.3	12	497	55,707	531	52,226
B-747-4	74.5%	41.1%	400	27.3	13.2	12	512	175,486	537	167,329

Table 3-8 (Continued)
Detail Supporting Table 3-1
1996 Air Carrier Capacity and Utilization Factors

Economic Values Class	(Column 1) Passenger Load Factor	(Column 2) Cargo Load Factor	(Column 3) Passenger Capacity	(Column 4) Cargo Capacity (Tons)	(Column 5) Daily Utilization (Hours)	(Column 6) Crew Size	(Column 7) Average Block Speed (MPH)	(Column 8) Block Hours	(Column 9) Average Airborne Speed (MPH)	(Column 10) Airborne Hours
Regional jet under 40 seats	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Regional jet with 40-59 seats	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Regional jet over 59 seats	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Turboprops under 20 seats	48.6%	16.5%	19	0.5	5.8	2	183	491,669	237	378,221
B-1900	47.1%	13.6%	19	0.6	6.0	2	184	373,433	239	287,113
JETST-31	52.4%	35.0%	19	0.3	5.1	2	167	79,253	219	60,323
METRO-III	55.7%	39.5%	18	0.3	5.2	2	201	38,983	255	30,785
Turboprops with 20 or more seats	53.6%	24.5%	40	0.9	5.9	3	187	1,081,703	238	850,086
ATR-42	53.8%	35.3%	46	0.7	6.4	4	174	238,969	222	187,998
ATR-72	55.3%	23.3%	65	1.5	6.4	4	182	154,978	238	118,076
BAE-ATP	45.0%	29.0%	64	0.9	5.4	4	162	21,466	212	16,416
DHC8-100	59.1%	27.4%	37	0.9	6.3	3	188	66,395	238	52,427
DHC8-300	51.9%	44.5%	44	0.4	5.4	3	218	17,669	257	14,974
DO-328	60.6%	27.5%	31	0.9	5.9	3	232	29,983	294	23,682
EMB-120	51.4%	19.4%	30	0.8	6.3	3	199	345,838	246	279,330
JETST-41	45.8%	9.5%	30	1.3	6.3	3	190	58,612	243	45,726
L-188A	42.5%	48.0%	55	4.5	3.4	5	313	3,743	347	3,373
SF-340	56.4%	31.8%	34	0.6	5.1	3	187	114,491	248	86,351
SHORT360	58.0%	10.5%	34	1.7	2.6	3	113	29,559	153	21,733
Piston	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
All Aircraft	69.4%	33.9%	161	7.8	7.9	6	351	15,150,956	418	12,705,231

Source: Form 41 Data, Year End 1996.

NR = No data reported.

Col 1: Revenue passenger miles divided by available seat miles.

Col 2: Cargo revenue ton miles divided by available ton miles. Available ton miles are net of passenger load, using 200 pounds per passenger mile.

Col 3: Available seat miles divided by aircraft miles (average passenger capacity).

Col 4: Available ton miles (net of passenger load) divided by aircraft revenue miles.

Col 5: Airborne hours per aircraft day.

Col 6: Flight crew from *Jane's All The World's Aircraft* plus one flight attendant for each 45 passenger seats above 19 seats.

Col 7: Aircraft miles divided by block hours.

Col 8: Block hours from source document. Time calculated from gate to gate.

Col 9: Aircraft miles divided by airborne hours.

Col 10: Airborne hours from source document.

Table 3-9
Detail Supporting Table 3-2
1996 Air Freight Carrier Capacity and Utilization Factors

Economic Values Class	(Column 1) Cargo Capacity (Tons)	(Column 2) Cargo Load Factor	(Column 3) Daily Utilization (Hours)	(Column 4) Crew Size	(Column 5) Average Block Speed (MPH)	(Column 6) Block Hours	(Column 7) Average Airborne Speed (MPH)	(Column 8) Airborne Hours
Two-engine narrow body jet	40.5	52.1%	3.7	2	377.7	117,509	439.6	100,981
B-757	44.0	52.2%	4.0	2	395.3	99,783	458.7	85,989
DC-9-15	10.6	50.1%	1.7	2	251.4	9,865	293.3	8,454
DC-9-30	18.0	51.1%	14.7	2	314.7	6,431	381.7	5,302
FALCON	2.5	33.1%	2.4	2	306.5	350	356.4	301
HS-125	2.0	36.4%	7.3	2	309.1	1,080	357.0	935
Two-engine wide body jet	51.8	61.8%	4.2	2	398.8	84,089	460.9	72,758
A300-600	54.4	65.3%	4.9	2	405.9	32,634	470.2	28,174
A310-2CF	40.1	59.6%	3.2	2	379.7	32,074	451.0	27,005
B-767-3/ER	65.0	58.9%	6.0	2	418.3	19,381	461.1	17,579
Three-engine narrow body jet	24.4	56.9%	2.0	3	354.9	298,091	424.4	249,253
B-727-1	20.6	55.0%	1.7	3	341.1	107,345	411.2	89,028
B-727-2	27.5	57.3%	2.1	3	362.5	165,462	432.2	138,764
B-727-QC	19.6	61.2%	3.2	3	363.7	25,284	428.4	21,461
Three-engine wide body jet	87.9	63.6%	6.5	3	454.3	167,381	494.9	153,648
DC-10-1	70.1	66.5%	4.8	3	398.0	24,116	465.1	20,635
DC-10-3	85.3	60.6%	5.9	3	446.1	61,449	495.6	55,319
DC-10-F	81.0	71.0%	5.6	3	478.6	7,248	505.3	6,864
L-1011	66.6	57.7%	3.3	3	520.9	7,550	436.1	9,018
MD-11	99.0	65.1%	10.4	2	471.9	67,018	511.7	61,812
Four-engine narrow body jet	47.7	60.4%	3.3	3	401.7	274,755	462.4	238,710
B-707-3C	48.6	48.8%	11.6	3	406.7	9,315	475.9	7,961
DC-8-50	47.3	38.8%	5.0	3	426.0	6	511.2	5
DC-8-50F	48.8	52.5%	4.1	3	403.0	30,686	471.0	26,256
DC-8-61	44.3	51.8%	2.3	3	381.2	9,086	438.7	7,896
DC-8-62	38.4	60.3%	2.1	3	374.8	16,863	444.3	14,224
DC-8-63	48.1	58.5%	3.0	3	370.1	8,325	429.7	7,171
DC-8-63F	49.0	67.4%	2.5	3	391.1	31,761	454.1	27,355
DC-8-71	46.5	63.7%	2.8	3	383.4	73,343	449.1	62,617
DC-8-73	53.1	54.5%	5.1	3	427.5	64,565	477.2	57,848
DC-8-73F	41.6	75.9%	3.8	3	428.6	30,805	482.3	27,377
Four-engine wide body jet	110.5	66.0%	4.7	3	453.0	144,927	496.1	132,322
B-747-1	109.7	61.9%	3.4	3	454.2	84,435	497.3	77,109
B-747-2/3	118.4	65.2%	9.5	3	448.0	24,322	487.7	22,340
B-747-F	107.2	76.6%	10.3	3	453.6	36,170	499.1	32,873
Regional jet under 40 seats	0.9	80.0%	2.8	2	161.3	35	112.9	50
LEAR-24	0.0	NR	2.5	2	396.0	1	79.2	5
LEAR-25	0.9	75.0%	3.0	2	197.6	22	161.0	27
LEAR-35	1.1	100.0%	2.6	2	75.3	12	50.2	18

Table 3-9 (continued)
Detail Supporting Table 3-2
1996 Air Freight Carrier Capacity and Utilization Factors

Economic Values Class	(Column 1) Cargo Capacity (Tons)	(Column 2) Cargo Load Factor	(Column 3) Daily Utilization (Hours)	(Column 4) Crew Size	(Column 5) Average Block Speed (MPH)	(Column 6) Block Hours	(Column 7) Average Airborne Speed (MPH)	(Column 8) Airborne Hours
Regional jet with 40-59 seats	NR	NR	NR	NR	NR	NR	NR	NR
Regional jet over 59 seats	NR	NR	NR	NR	NR	NR	NR	NR
Turboprops under 20 seats	1.8	45.4%	1.4	2	148.2	147,200	168.8	129,217
BECH-99	1.9	66.7%	2.0	2	100.8	16	115.2	14
BECH-C99	1.6	52.9%	2.3	2	143.1	1,339	149.2	1,284
B-1900	2.8	52.9%	2.5	2	207.6	2,076	238.6	1,807
C-208	1.7	43.4%	1.6	1	138.6	127,347	158.2	111,567
METRO-II	1.3	74.6%	3.1	2	194.6	272	228.2	232
METRO-III	2.3	51.5%	0.8	2	217.4	15,897	244.9	14,109
MU-2/B	1.3	30.4%	1.8	2	144.8	253	179.6	204
Turboprops with 20 or more seats	17.0	40.5%	2.4	2	220.7	41,926	255.8	36,175
CV-580	7.3	65.2%	2.7	2	231.6	2,459	270.7	2,104
CV-600	6.0	54.7%	0.9	2	164.2	8,034	195.6	6,746
CV-640	8.3	34.1%	3.2	2	185.6	2,356	218.6	2,000
L-188A	28.4	31.1%	3.3	3	218.8	7,995	269.4	6,491
L-382E	19.1	43.5%	5.4	3	263.0	17,857	291.0	16,141
SD3-30	3.3	47.2%	2.1	2	130.3	1,004	166.2	787
SHORT360	3.7	46.5%	2.7	2	157.4	2,221	183.4	1,906
Piston	6.6	40.2%	2.2	2	193.5	75,007	225.4	64,368
B-55	0.5	35.7%	2.9	2	167.5	1,168	184.9	1,058
BECH-18	1.5	73.2%	1.3	2	142.3	456	166.9	389
C-185	5.6	33.2%	2.2	2	206.8	51,554	238.0	44,794
C-310	0.6	25.0%	1.5	1	143.7	418	165.9	362
C-401	0.8	25.0%	2.7	1	153.6	138	182.7	116
C-402	0.8	28.9%	3.1	1	145.4	754	167.9	653
C-404	0.8	100.0%	1.2	2	148.8	8	198.3	6
CES-206/7	0.5	31.8%	1.2	1	120.7	730	135.0	653
CV-240	5.5	50.0%	3.0	2	167.2	13	181.2	12
D-35	0.5	33.3%	2.1	2	165.4	34	181.4	31
DC-6	14.1	52.4%	2.3	2	174.5	13,788	213.1	11,291
DO-28	2.3	42.0%	2.6	2	155.4	2,262	194.1	1,811
PA-30'S	0.7	47.9%	2.3	2	145.5	3,263	168.0	2,825
PA-32	0.6	30.0%	2.7	2	160.6	421	184.2	367
All Aircraft	53.2	61.8%	2.8	3	356.2	1,350,920	408.6	1,177,482

Source: Form 41 Data, Year End 1996.

NR = No data reported.

Col 1: Available ton miles divided by aircraft miles.

Col 2: Cargo revenue ton miles divided by available ton miles.

Col 3: Airborne hours per aircraft day.

Col 4: Flight crew from *Jane's All The World's Aircraft*.

Col 5: Aircraft miles divided by block hours.

Col 6: Block hours from source document. Time calculated from gate to gate.

Col 7: Aircraft miles divided by airborne hours.

Col 8: Airborne hours from source document. Time calculated from takeoff to landing.

Note: The following aircraft types were reported in Form 41, but are not included due to incomplete filings: F28-1000; A310-300: 5 air hours;

Bae-146-200; C-336: 1 block hour; C-411: 2 block hours; AERO-1121: 1 block hour; HFB-320; EMB-110: 1 air hour; CV-540.

Table 3-10
Detail Supporting Table 3-3
1996 Alaska Operators Capacity and Utilization Factors
298-C Operations

Economic Values Class	(Column 1) Seats	(Column 2) Crew Size	(Column 3) Cargo Capacity (Tons)	(Column 4) Block Hours	(Column 5) Airborne Hours
Two-engine narrow body jet	123	4	NR	111	88
OTHER 2-ENGINE TURBO-FAN JET	123	4	NR	111	88
Two-engine wide body jet	NR	NR	NR	NR	NR
Three-engine narrow body jet	146	4	39.6	878	697
BOEING 727-200/231A	97	4	39.6	NR	NR
OTHER 3-ENGINE TURBO-FAN JET	146	4	NR	878	697
Three-engine wide body jet	NR	NR	NR	NR	NR
Four-engine narrow body jet	97	4	NR	580	461
OTHER 4-ENGINE TURBO-FAN JET	97	4	NR	580	461
Four-engine wide body jet	NR	NR	NR	NR	NR
Regional jet under 40 seats	8	1	3.6	1,557	1,236
GATES LEARJET LEAR-35	8	1	3.6	1,557	1,236
Regional jet with 40-59 seats	NR	NR	NR	NR	NR
Regional jet over 59 seats	NR	NR	NR	NR	NR
Turboprops under 20 seats	15	2	2.3	70,463	55,948
BEECH 1900 A/B/C	19	2	2.9	3,493	2,773
BEECH 200 SUPER KINGAIR	13	2	2.3	4,191	3,328
BEECH 99 AIRLINER	15	2	2.2	2,960	2,350
BEECH C99	15	2	2.2	3,157	2,507
BEECH KING AIR C-90	6	1	1.8	631	501
CESSNA 208 CARAVAN	9	1	1.9	12,911	10,251
CESSNA C-441	9	1	NR	880	699
DEHAVILLAND TWIN OTTER DHC-6	19	2	2.6	13,147	10,439
FAIRCHILD-HILLER FH-227	18	2	NR	178	141
FLOAT/AMPHIB TURBINE	12	2	NR	1,110	881
GRUMMAN G-21G (TURBO-GOOSE)	12	2	2.6	263	209
LAND-TURBINE	9	1	NR	515	409
PIPER T-1040	11	2	1.9	7,675	6,094
SHORTS HARLAND SC-7 SKYVAN	19	2	2.1	2,307	1,832
SWEARINGEN METRO II	19	2	2.3	614	488
SWEARINGEN METRO III	19	2	2.4	14,539	11,544
SWEARINGEN METRO MERLIN	6	1	NR	139	110
VOLPAR TURBO 18	15	2	2.2	1,753	1,392
Turboprops with 20 or more seats	40	3	5.1	11,991	9,521
CASA 235	44	3	5.7	371	295
CASA/NURTANIO C212 AVIOCAR	26	3	2.6	658	522
CONVAIR CV-580	44	3	NR	5,918	4,699
DEHAVILLAND DHC4 CARIBOU	30	3	4.7	334	265
DEHAVILLAND DHC8-100 DASH-8	37	3	5.4	4,710	3,740

Table 3-10 (continued)
Detail Supporting Table 3-3
1996 Alaska Operators Capacity and Utilization Factors
298-C Operations

Economic Values Class	(Column 1) Seats	(Column 2) Crew Size	(Column 3) Cargo Capacity (Tons)	(Column 4) Block Hours	(Column 5) Airborne Hours
Piston	6	1	0.9	294,247	233,632
BEECH 18 C-185	9	1	2.2	2,910	2,311
BEECH BARON (55 SERIES)	6	1	0.9	503	399
CESSNA 172 SKYHAWK	4	1	0.4	5,412	4,297
CESSNA 180	6	1	0.5	1,271	1,009
CESSNA 185A/B/C SKYWAGON	6	1	0.8	6,606	5,245
CESSNA C206/207/209/210 STATIONAIR	6	1	0.8	93,260	74,048
CESSNA C-401	8	1	1.1	931	739
CESSNA C-402/402A	8	1	1.1	11,279	8,956
DEHAVILLAND DHC2 BEAVER	2	1	NR	27,128	21,540
DEHAVILLAND DHC3 OTTER	9	1	1.6	6,928	5,501
GRUMMAN G-21A (GOOSE)	11	2	2.6	1,245	989
GRUMMAN G-44/44A (WIDGEON)	4	1	NR	908	721
HELIO H-250	4	1	NR	277	220
LAND-PISTON-LT 450 HP	6	1	NR	19,734	15,669
MCDONNELL DOUGLAS DC-3/A/C,C-47/B	28	3	3.8	609	484
PILATUS BRITTEN-NORMAN BN2/A ISLANDER	8	1	1.4	3,159	2,508
PIPER PA-18 (SUPER-CUB)	2	1	0.4	1,481	1,176
PIPER PA-22 (TRI-PACER)	4	1	0.4	0	0
PIPER PA-24 (COMANCHE)	6	1	NR	15	12
PIPER PA-28 (CHEROKEE)	4	1	0.5	5,598	4,445
PIPER PA-31 (NAVAJO)	6	1	1.1	54,449	43,233
PIPER PA-32 (CHEROKEE 6)	6	1	0.7	41,340	32,824
PIPER PA-34/39 (TWIN COMMANCHE)	6	1	0.6	5,321	4,225
PIPER T-1020	8	1	NR	3,883	3,083
All Aircraft	9	1	1.3	379,827	301,583

Source: Analysis of Year End 1996 Form 298C data.

NR = No data reported.

Col 1: *Jane's All The World's Aircraft* (various issues) *op. cit.*

Col 2: Standard flight crew complements per analysis of *Jane's All The World's Aircraft*, *op. cit.*, plus one flight attendant per each 45 passenger seats above 19 seats.

Col 3: *Jane's All The World's Aircraft*, *op. cit.*

Col 4: Form 298-C.

Col 5: Block hours from Form 298-C multiplied by ratio of airborne hours/block hours for similar aircraft from Form 41.

Table 3-11
Detail Supporting Table 3-4
1996 Other (Non-Alaska) 298-C Operators Capacity and Utilization Factors

	(Column 1)	(Column 2)	(Column 3)	(Column 4)	(Column 5)
Economic Values Class	Seats	Crew Size	Cargo Capacity (Tons)	Block Hours	Airborne Hours
Two-engine narrow body jet	NR	NR	NR	NR	NR
Two-engine wide body jet	NR	NR	NR	NR	NR
Three-engine narrow body jet	NR	NR	NR	NR	NR
Three-engine wide body jet	NR	NR	NR	NR	NR
Four-engine narrow body jet	NR	NR	NR	NR	NR
Four-engine wide body jet	NR	NR	NR	NR	NR
Regional jet under 40 seats	8	1	5.3	535	425
ROCKWELL SABRELINER	8	1	5.3	535	425
Regional jet with 40-59 seats	50	4	9.1	147,443	117,070
CANADAIR RJ-100/RJ-100ER	50	4	9.1	147,443	117,070
Regional jet over 59 seats	NR	NR	NR	NR	NR
Turboprops under 20 seats	18	2	3.1	370,813	294,426
BEECH 1900 A/B/C	19	2	3.2	49,673	39,440
BRITISH AEROSPACE JETSTREAM 31	19	2	3.5	186,933	148,425
DEHAVILLAND TWIN OTTER DHC-6	19	2	2.8	3,343	2,654
SWEARINGEN METRO II	19	2	2.5	5,315	4,220
SWEARINGEN METRO III	19	2	2.6	125,549	99,686
Turboprops with 20 or more seats	35	3	5.3	973,201	772,722
AEROSPATIALE/AERITALIA ATR-42	46	4	7.1	42,601	33,825
BRITISH AEROSPACE JETSTREAM 41	29	3	3.1	87,791	69,706
DEHAVILLAND DHC8-100 DASH-8	37	3	6.0	203,498	161,577
DORNIER 328	30	3	5.3	9,688	7,692
EMBRAER EMB-120 BRASILIA	30	3	4.8	296,977	235,800
FOKKER FRIENDSHIP F-27/FAIRCHILD F-27/A/B/F/J	44	3	10.2	4,835	3,839
SAAB-FAIRCHILD 340/B	37	3	5.5	327,811	260,282
SHORTS 360	36	3	4.6	0	0
Piston	54	2	1.2	97,774	77,633
CESSNA C206/207/209/210 STATIONAIR	6	1	0.9	3,584	2,846
CESSNA C-402/402A	8	1	1.2	50,974	40,473
CONVAIR CV-340/440	52	4	NR	498	395
LOCKHEED L-049	112	4	NR	42,686	33,893
MCDONNELL DOUGLAS DC-3/A/C,C-47/B	28	3	4.2	32	25
All Aircraft	33	3	5.0	1,589,766	1,262,276

Source: Analysis of Year End 1996 Form 298C data.

NR = No data reported.

Col 1: *Jane's All The World's Aircraft* (various issues) op. cit.

Col 2: Standard flight crew complements per analysis of *Jane's All The World's Aircraft*, op. cit. , plus one flight attendant per each 45 passenger seats above 19 seats.

Col 3: *Jane's All The World's Aircraft*, op. cit.

Col 4: Form 298-C.

Col 5: Block hours from Form 298-C multiplied by ratio of airborne hours/block hours for similar aircraft from Form 41.